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ON THE DISTRIBUTION OF THE CIRL BUNTING IN GREAT BRITAIN.

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SINCE its discovery as a British bird, in the winter of 1800, by Montagu, who found it not uncommon among flocks of Yellow Buntings and Chaffinches, and procured several specimens near Kingsbridge, in Devonshire, the Cirle Bunting has been found to be a resident species in many other parts of southern England, as well as in some of the home counties and western midlands; and of late years it appears to have been increasing its range and pushing its way into Wales. In East Anglia it continues very rare, or unknown. But it is extremely local over most parts of its range, and its distribution is to some extent sporadic. Probably its presence in, or absence from, some parts of the country may be determined by the possibility or otherwise of obtaining certain kinds of insect food. Montagu's discovery that the young were fed especially upon the common grasshopper bears upon the point, but sufficient evidence thereon is not yet forthcoming. In winter it is partial to hay-seeds. This much seems clear—that, as a resident species, the Cirle Bunting avoids the colder parts of England, and undoubtedly has its strongholds along the south coast and in the mild climate of the west. The presence of tall trees, especially elms, seems to be a desirable, if not essential, feature in those districts which it inhabits. In autumn and

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winter it undoubtedly wanders, and is met with as a casual visitor in various parts of the country.

When editing the 4th edition of Yarrell's 'British Birds,' Prof. Newton wrote, in the article upon this bird (vol. ii. p. 52):—"Its peculiar sporadic distribution in the breeding season deserves far greater attention than has yet been paid thereto, and at present its preference for certain localities is wholly unaccountable." The present paper is the result of an attempt to work out that distribution. With this end in view, I asked, through 'The Field' newspaper and the pages of 'The Zoologist' (1891, p. 190), for information on the British distribution of this bird, and I now take this opportunity of thanking the numerous naturalists who kindly responded to my request. I have here endeavoured to bring together the published records relating to the Cirl Bunting in this country, and have supplemented them by the information obtained from correspondents, and that already in my possession.

It is impossible to give at all an accurate idea of the distribution of this bird without tendering the whole of the evidence obtained; but it may be convenient to state shortly that the Cirl Bunting breeds regularly and commonly (but often locally) in Cornwall, Devon, West Somerset (rare in the East), Dorset, Hants (including the Isle of Wight), and Sussex (most commonly on the coast). It is also resident, but less common, in Wilts, Gloucester, Hereford, Worcester, Kent, Surrey, Berks, Middlesex, Herts, Oxon, Bucks, Warwick, and Bedford, being better represented in the first seven of this second group of counties than in the remainder, and local in all—*e.g.* in Oxon, where it is almost confined to the south. Elsewhere evidence of its residence is less satisfactory, but it has been observed in summer in Shropshire and Northamptonshire, and it has even bred in Yorkshire. As a winter, or casual, visitor it is recorded from Norfolk, Essex, Lincoln, Leicester, Notts, Derby, and Lancashire (where it is supposed to have bred). Its rarity on the east side of England is noteworthy—especially in view of the close attention which for many years has been paid to the Ornithology of some of the counties of East Anglia—and it is unrecorded from Suffolk, Cambridgeshire, and Hunts. There is no satisfactory instance of its occurrence in Cheshire, and it is unknown in Northumberland, Durham, Cumberland, and Westmoreland.

In Wales there is a flourishing colony in Denbigh, and it breeds in Brecon, Glamorgan, and Cardigan. To Pembroke it is only a casual visitor, and it has once been obtained in Merionethshire; elsewhere it is at present unknown, or unrecorded, but it is apparently pushing its way, and enlarging its range, in the principality.

To Scotland it is merely an accidental visitor, and it is unknown in Ireland.

YORKSHIRE.—Described in the 'Vertebrate Fauna of Yorkshire' (p. 32) as a "casual visitant of rare occurrence." Mr. Eagle Clarke writes me word that "It has several times been recorded for Toredale and Bedale" (*in litt.*). Of the seven instances recorded in the 'Vertebrate Fauna,' five were in January, February, and December. In 'The Naturalist' (1890, p. 148), Mr. John Ward, of Lofthouse, records finding a nest with three eggs at Lofthouse on May 31st, 1882, and another near Flushdyke, Ossett, with four eggs, on May 6th, 1889. At p. 320, in reply to an editorial note, he wrote that both pairs of birds were carefully observed through the field-glass, and he hints that one of the males was procured. For occurrence in winter in Sherwood Forest, near Doncaster, see 'Naturalist,' vol. ii. p. 164; and near Bedale and Richmond, 'Zoologist,' p. 3056. In 'The Field' of Oct. 1st, 1887, as I am informed by Mr. T. H. Nelson, Mr. J. Carter, of Masham, states that a young bird shot there may have been one of several turned out by his son. Mr. Basil Carter wrote Mr. Eagle Clarke (Aug. 4th, 1891) that he was sending him what he took to be a young bird and nest of this species. He took it the day before in a small plantation at Masham House. In a subsequent letter he mentioned those liberated there, and said he always thought they bred there, and were increasing yearly. Mr. Eagle Clarke tells me he has carefully examined the young bird, and is satisfied that it was of this species (*in litt.*). One was shot at Fen Bog, near Whitby, a female, on Feb. 28th, 1882, and is now in Whitby Museum. Two others were seen at the same time and place (Stephenson), *vide* Messrs. Clarke & Roebuck (Zool. 1884, p. 175).

LANCASHIRE.—"At Urmston," Mr. C. E. Reade states that "fifteen or twenty years ago the Cirl Bunting was occasionally found in winter with the flocks of Yellowhammers and Finches, but since that time it has not been observed. Mr. C. S. Gregson

writes me that it has bred in his warren at Formby, and that two eggs and one bird from there are now in his collection. Elsewhere there are no records" (Mr. F. S. Mitchell's 'Birds of Lancashire,' p. 72).

CHESHIRE.—Mr. T. A. Coward, of Bowdon, writes me word that he has no note of its occurrence, though it has been reported "on rather slender evidence" (*in litt.*).

LINCOLNSHIRE.—"The Cirl Bunting is a rare bird here. The only occurrences since 1887 I have any note of are:—an adult male seen by me in this parish on Jan. 5th, 1889, the black feathers on the throat being then edged with grey. Another on Dec. 10th, 1889, seen on a hedge between Grainsby and Grimsby by my friend Mr. G. H. Caton Haigh when driving. Mr. Eagle Clarke and I also saw one near Spurn some years ago in the late autumn" (Mr. J. Cordeaux, *in litt.*). Mr. Cordeaux also mentions that he has had several reports of its not uncommon occurrence in the spring and summer near Gainsborough, and on the wild common land and warrens in the Trent district.

NORFOLK.—When the late Mr. Stevenson published the first volume of his 'Birds of Norfolk' (1866), the only instances of the occurrence of this bird in Norfolk were of a not very satisfactory character—*viz.*, the appearance of a specimen in the county (no more exact locality was given) in November, 1849, recorded by the late Mr. J. H. Gurney in 'The Zoologist' (p. 2651), and a pair stated by a correspondent in 'The Field' (May 24th, 1856) to have been killed in Norfolk in December, 1855, one of which was said to have come into the possession of the Earl of Leicester ('Birds of Norfolk,' p. 198). Mr. J. H. Gurney, in his list of the Birds of Norfolk given in Mason's 'History of Norfolk' (1884), was unable to add to these occurrences; but in his "Additions and Corrections" (December, 1885), he says, "Mr. E. T. Booth tells me he obtained two females at Hickling in the autumn of 1875." In Messrs. Gurney and Southwell's 'List' (Trans. Norf. and Norw. Nat. Soc., 1885-6), no further occurrences are recorded. In January, 1889, Mr. Gurney wrote to 'The Zoologist':—"On February [January] 29th [1888], two male Cirl Buntings were netted on Breydon Marshes; snow on the ground and 17° of frost that night, indicating that they were fresh arrivals, most likely from the interior . . . The Cirl Bunting is rare in Norfolk; an example, hitherto unrecorded, was seen some years ago at Hemp-

stead, by Messrs. Farn and Standen. Yet, so far as is known, this and [the Breydon pair] bring up the number of authentic occurrences to five only."

The Rev. Julian G. Tuck writes me word that the Cirl Bunting does not seem to have occurred in SUFFOLK. He adds that, as it has occurred in Norfolk and Essex, "doubtless its recognition in Suffolk is only a matter of time."

Professor Newton kindly informs me that he is not aware of a single instance of the occurrence of the Cirl Bunting in CAMBRIDGESHIRE (*in litt.*).

ESSEX.—"Though locally resident in most of the southern counties, this bird seems to be very rare in Essex. There are but two or three records of its occurrence in the county." The following evidence is given by Mr. Miller Christy:—Mr. W. D. King saw what he believed to be a Cirl Bunting near Middleton about 1834; he had then a stuffed one in his possession. Mr. C. E. Smith recorded one shot at Latchingdon, 1854. Mr. Arthur Lister, who was familiar with the note, heard one at Saffron Walden "several years ago," and one was sent in the flesh to Mr. Travis from Thaxted about 1885 ('Birds of Essex,' 1890, p. 128).

DERBYSHIRE.—Mr. A. S. Hutchinson, of Derby, writes:—"Very rare here. I have seen it once or twice during this last few years, in company with the Yellowhammer . . . in the Chellerton district near Derby, but I have not been able to discover the nest" (*in litt.*).

NOTTINGHAMSHIRE.—"Several specimens . . . have been taken near Ollerton. H. Wells shot five at Edwinstowe in 1859" (Sterland and Whitaker's 'Birds of Nottinghamshire,' p. 22). "I once found near Cotgrave [five miles S.S.E. of Nottingham] a nest containing eggs closely resembling those of the Cirl Bunting; the nest, too, was rather unlike that of the Yellow Bunting. Though I waited some time I could not get a view of the birds" (Mr. F. B. Whitlock, *in litt.*).

LEICESTERSHIRE.—"Rare. Has occurred but once, on the authority of Harley, who, writing between 1840—55, said he had met with it in company with the Yellow Bunting, in the lordship of Thurmaston" ('Birds of Leicestershire and Rutland,' p. 88). "My friend Mr. Wielett tells me he formerly met with a few pairs breeding at a spot he calls 'Willow Creek,' a rather

secluded portion of the forest [Charnwood]. The last year or two, however, he has failed to notice them" (Mr. F. B. Whitlock, *in litt.*). This evidence of the Cirl Bunting breeding in Leicestershire is hardly conclusive.

NORTHAMPTONSHIRE.—One, male, seen at Lilford, June 29th, 1866, by Lord Lilford; the only occurrence of the species in the county of which he was then aware ('Notes on Birds of Northamptonshire,' p. 110). One, male, caught by a birdcatcher in Lord Lilford's employ, on a farm of his not far from Bythorn, Dec. 18th, 1884 (Zool. 1885, p. 182). One, male, seen near Achurch, May 28th, 1889 (only the third occurrence known to the recorder). Several seen about the same spot about July 23rd, 1889 (Lord Lilford, Zool. 1889, pp. 427, 429).

BEDFORDSHIRE.—Its occurrence in winter is mentioned in Yarrell, a reference to 'The Zoologist' (s. s. p. 2562) being given. Mr. Howard Saunders says it is fairly common, although very local, on the chalk hills of Bedfordshire (Manual Brit. Birds).

SHROPSHIRE.—I take the following particulars from Mr. W. E. Beckwith's 'Notes on Shropshire Birds,' p. 79. Mr. Henry Gray, of Ludlow, wrote to Mr. Beckwith in 1882:—"On the 23rd June I saw a beautiful male Cirl Bunting near this town, and within the Shropshire boundary. It was sitting on a hedge by the road, and allowed me to approach near enough to see its black throat." One, the first in the county, is mentioned as shot on Jan. 11th, 1879, during intense frost. Its occurrence in winter is noted in Yarrell, with a reference to 'The Zoologist,' p. 9780.

HEREFORDSHIRE.—"This bird is a native of the county, and not an occasional visitant. 'Anyone,' says Mr. Ley, 'who can distinguish its note' will come to the conclusion that it is not an uncommon bird in Herefordshire. It takes up its residence in certain localities, where it is always to be seen year after year . . . one such spot on the Callow Pitch; another at Birch; another at King's Cagle; another at the Chase, Ross." A nest with eggs found close to Mitcheldean-road Station in 1880 is mentioned (Dr. Bull's 'Notes on the Birds of Herefordshire,' 1888, p. 39). Mr. J. B. Pilley, of Hereford, writes:—"The Cirl Bunting must be fairly common; it appears to be known by those who make no special study of birds. I have seen it within a mile of the centre of the city" (*in litt.*).

WORCESTERSHIRE.—Mr. C. Parkinson writes:—"The Cirl

Bunting, I find, is a regular Worcestershire bird, especially on the Malvern Hills. I have proof of its breeding at least once, and possess half-a-dozen records from various quarters in the county" (*in litt.*). But Mr. Lionel Talbot, of Kidderminster, has never to his knowledge seen it (*in litt.* 1891).

WARWICKSHIRE.—Mr. F. R. Ratcliff, of Brockenhurst, found a nest about seven years ago at Great Alne, near Alcester. He adds, "I do not think they are common there, as I only found this nest" (*in litt.*). In the last edition of Yarrell it is said to breed in Warwickshire. Mr. F. C. Aplin saw a male close to Brailes, June 13th, 1884. Mr. John Gardner, of Warwick, told me in 1884 that he shot one at Iddlecote a year or two before that date. He was well acquainted with the bird, and had stuffed specimens in his collection. Mr. R. W. Chase tells me of two taken by a birdcatcher at Northfield, Nov. 9th, 1888, and brought to him alive (*in litt.*).

GLOUCESTERSHIRE.—Mr. W. K. Mann writes from Clifton that the Cirl Bunting occurs there, but is very rare. He, however, meets with its nest nearly every year (*in litt.*). Mr. C. A. Witchell writes, "Within a radius of ten miles of Stroud Cirl Buntings are found, as nearly as I can guess, to the extent of one pair per square mile" (*in litt.*).

OXFORDSHIRE.—In the Chiltern district of South Oxon the Cirl Bunting is resident and fairly common, and it has been observed as far along the range as Chinnor. A few specimens have been recorded from the neighbourhood of Oxford. In the north of the county two nests were taken near Bloxham by Mr. C. M. Prior, which he believed belonged to this species. Two pairs were seen near South Newington at the end of May, 1885, and early in the same month, in 1889, I observed a male in song close to Bloxham. In winter a female was shot at the same place in December, 1878, and seven or eight from a little flock of ten at Banbury in 1871. It is therefore probably a resident in small numbers (*vide* 'Birds of Oxfordshire,' p. 83).

WILTSHIRE.—The Rev. A. C. Smith wrote in 1888:—"In addition to many notices of its occurrence in all parts of the county, north and south, from various observers on whose accuracy I can rely, I have repeatedly watched it in several localities which it regularly haunts, and have not only killed it, but have found its nest in the neighbourhood of Devizes." He mentions

the fact of its nesting in the previous summer in the gardens at Bassett Down; and also that it was described by the Rev. A. P. Morres as widely scattered, though not numerous in the neighbourhood of Salisbury. So, too, the fact of its breeding annually at Mere for the past twenty years, frequenting only one particular spot in the parish ('Birds of Wiltshire,' 1888, p. 191).

BERKSHIRE. — Captain A. Clark Kennedy records that the Rev. F. O. Morris, in the summer of 1826 or 1827, procured one of a pair at East Garston, near Lambourne, and also obtained their nest and two eggs. Also that some specimens in Gould's collection were procured in the grounds of Formosa, near Cookham, and that he was informed by Mr. Sharpe that this species was not uncommon in that neighbourhood. The author was not aware that it had occurred near Windsor ('Birds of Berks and Bucks,' p. 176). "A pair nested at Speen [Newbury], in the spring of 1884; two were shot at Speen, December, 1885, now in my collection" (the late Mr. Montagu H. C. Palmer, F.S.A., in list of the birds of the district in Hawkins' 'Guide to Newbury'). Mr. J. Young writes me word that it is "fairly common" about Faringdon, and breeds (*in litt.*).

(To be continued.)

ADDITIONAL NOTES ON THE BIRDS OF DONEGAL.

BY J. STEELE ELLIOTT.

As the Ornithology of Ireland is just now attracting particular attention, in view of the preparations for a new edition of Thompson's standard work, any useful notes on the subject, however short, will doubtless be acceptable. I accordingly forward a few remarks on the Birds of Donegal, which may be regarded as supplementary to those already published by Mr. H. Chichester Hart (Zool. 1891, pp. 297, 334, 377, 421, 459; and 1892, pp. 32, 108). They are almost all derived from personal observation in the county.

PEREGRINE FALCON. — In addition to the localities mentioned by Mr. Hart, the Peregrine breeds on the Dawros Head, where it is locally called "Kite Hawk."

KESTREL. — Breeds among the rocky sides of Loughs Kiltorris and Doon.

GOLDEN ORIOLE.—One was killed near Dawros by Mr. Hamilton some years ago. I am unable to say whether this is the one referred to by Mr. Hart (Zool. 1891, p. 300) as obtained near Glenties, which is twelve miles distant.

WHEATEAR.—Very common about Inniskeel; breeds also in the stone-walls, and under large boulders. Local name, "Stone-chacker."

WHINCHAT.—One pair I noticed between Glenties and Port Noo.

ROCK PIPIT.—Very common on Dawros Head and the adjacent islands.

COMMON BUNTING.—Equally as common as the Yellow Bunting about Narin and Inniskeel.

GOLDFINCH.—At Dawros, Inniskeel, Narin, and this neighbourhood, the commonest finch. Breeds in every orchard and elderberry hedge around, also in hawthorn hedges, gooseberry bushes and larch trees.

LESSER REDPOLL.—Found nesting commonly in the above-mentioned districts.

TWITE.—A few pairs about Dawros.

CHOUGH.—In 1891 three pairs were found breeding on Dawros Head; commoner around the district in winter. Local name, "Jackdaw."

RAVEN.—Used to breed a few years since on Dawros Head, also on some old ruins on Lough Kiltorris, where the owner of the island always substituted some unfertile eggs, to keep the old birds employed, not wishing to destroy them, nor, on the other hand, allow them to unduly increase.

HOODED CROW.—Breeds also on the rocky sides of inland waters, as on Lough Doon, where a nest was found supported by the growth of ivy on the face of rock, and another on a small oak tree growing out from a crevice in the rocks; also on the rugged sides of Lough Derrydough. One nest containing five eggs was built in a small sallow about six feet high on one of the small islands in this lough.

JACKDAW.—Breeds in great numbers in the old ruined castle at Donegal, also in the chimneys at Ballybofey and Glenties.

SAND MARTIN.—In a small bank of sand-hills facing the sea, at Narin, I found two nests of eggs. Two or three other holes, I did not disturb.

SWIFT.—I observed a pair at Narin, and found the nest containing two eggs in a small crevice under the storehouse window-sill.

GOLDEN PLOVER.—A few pairs breed on the mountains near Glenties.

TURNSTONE.—A small flock of these birds was seen about Narin coast; and on Ronanish Isle five were seen on May 27th, 1891.

PURPLE SANDPIPER.—One sent to me was shot at Dawros April 2nd, 1890.

BAR-TAILED GODWIT.—One shot at Narin, August 21st, was also forwarded.

SANDERLING.—Common on the Narin strand in autumn, and I have seen a flock of about fifty, with a few Dunlins, on May 27th, and a smaller flock, May 29th, 1891.

HERON.—On Lough Dough, a few years ago, there were a few nests, but they have been since deserted. On Lough Doon a pair built in a small willow, but did not succeed in rearing their young. On Lough Derrydough a small island held fully fifteen nests last year, built on small willow trees. As in many other parts of Ireland, the Heron is here locally called "Crane."

CORN CRAKE.—Whilst driving right through the county, I was particularly struck with the number of Corn Crakes that were heard on the way. This bird seems very common here in summer and autumn.

BERNICLE GOOSE.—Great numbers visit the grass-covered islands and mainland about Dawros Head.

SHELDRAKE.—In addition to the localities mentioned by Mr. Hart (Zool. 1891, p. 460), the Sheldrake breeds on the sand-hills of Trimore and Ballyistan, also on Ronanish Isle, off Dawros.

POCHARD.—On May 19th, 1891, I saw a male on Lough Clooney.

GREAT NORTHERN DIVER.—Two were shot at Port Noo, January 15th, 1892.

RAZORBILL.—Breeds abundantly on Tormore and on the adjacent rocks.

BLACK GUILLEMOT.—Breeds in fair numbers on the "Banks of Tormore."

SHAG.—A colony of about 500 on "Banks of Dunmore."
Local name, "Skart."

ARCTIC TERN.—Breeds in great numbers on Ronanish Isle; also on Innisparnog till 1890, when they all deserted and went to Ananish Isle, four miles away. Local name, "Durrock."

LESSER TERN.—I saw about a dozen clutches of eggs on Narin strand, and about six pairs of birds at Ballyistan strand.

COMMON GULL.—About fifty pairs breed on the islands of Lough Burragh, and a less number on Lough Doon, probably because, on the latter, their eggs are gathered, chiefly from off the walls of an old Danish fort, about fourteen feet high and four feet thick; one pair nested on Lough Kiltooris, but their eggs were taken and they failed to try the old proverb again. Local name, "Lough Gull."

GREAT BLACK-BACKED GULL.—Three pairs were breeding in 1891 on one of the islands of Lough Derrydough, one pair on Lough Dough, others on Ronanish Isle, and on a rock off Tormore.

STORM PETREL.—Judging from their notes heard at night and early morn, a fair-sized colony exists under the loose boulders on Ronanish Isle.

THE BRITISH MARTEN.

MARTES SYLVATICA, Nilsson.

BY THE EDITOR.

(Continued from Zool. 1891, p. 459.)

IN 'The Zoologist' for December last (pp. 450—459), under the head of counties, I gave some account of the distribution of the Marten in England, commencing with Northumberland and ending with Cornwall, the consideration of Wales, Scotland, and Ireland being reserved for future consideration.

Before dealing with the remainder of the British Islands, however, it will be well to make such additions and corrections to the notes relating to the English counties as have come to hand since the publication of my former article. I am indebted to several correspondents for information on this subject, and it will be convenient perhaps to take their letters in the order of the counties already named.

NORTHUMBERLAND (Zool. 1891, p. 450).—Mr. George Bolam, of Berwick-on-Tweed, writes:—"In order to make Mr. Harting's account of the present distribution of the Marten in England (Zool. 1891, pp. 401—409, and 450—459), as complete as possible, perhaps I may be allowed to call attention to what seems to be an error in the paragraph, on p. 450, relating to Northumberland. From this paragraph it would appear that two Martens were obtained near North Shields in 1883, but a comparison of the references given ('Naturalist,' 1886, p. 238, and 'Zoologist,' 1883, p. 295) will show, I think conclusively, that both these notices relate to the same animal. This, therefore, will reduce the number of occurrences for Northumberland, as given by Mr. Harting, to two individuals since the year 1871. In addition to these I may mention, in reference to the newspaper cutting quoted by Mr. Yellowley ('Naturalist,' 1886, p. 238), but passed over by Mr. Harting, no doubt as 'insufficient evidence,' that I have seen the specimen therein referred to, and there is no doubt either as to its correct identification or as to the trustworthiness of the record. It was a fine male, in capital condition as to fur and otherwise, and was caught in an ordinary steel rabbit-trap upon the banks of the River Breamish, in front of Harehope Hall, in the parish of Eglingham, Northumberland, on the 28th May, 1883, by a son of Robert Hedley, the then gamekeeper upon the estate. I saw it in Hedley's possession shortly afterwards, and had from him full particulars of its capture. It was stuffed and set up by Andrew Hall, an old mole-catcher, resident in the locality, who practises as the local taxidermist; and, like most of the specimens I have examined, it has the breast of a dirty white, stained as it were with reddish buff, rather than of a yellow colour. No other example was known to have been killed or seen in the district for very many years previously, and speculation was rife, amongst the neighbouring gamekeepers and others, as to where this solitary animal could possibly have come from. The close proximity of the Cheviot Hills, however, and such sanctuaries as Chillingham Park (distant little more than a couple of miles from Harehope as the crow flies), as well as the extensive tracts of moorland and plantation which abound in the neighbourhood, may be taken as the natural explanation of the mystery with which its appearance was regarded; while the travelling capabilities of the Marten are

too well known to require further comment. Nevertheless, with the universal practice of trapping (here very fully developed), and the close attention paid to all so-called 'vermin' by the game-preserve, it must be a matter of extreme difficulty for any foot-footed animal to escape detection, and there can be no doubt that even in the wildest parts of the county the poor Marten is on the verge of extermination, if indeed it has not already been eradicated. The almost simultaneous occurrence of two individuals in a country where they had become practically unknown is very curious. The North Shields example was trapped on 23rd May, and that at Harehope just five days later. As already mentioned, the latter was a male, and it would be interesting to know if any record was kept of the sex of the other.

"In the mansion of Eglington Hall, so long the seat of the Ogle family, and which adjoins Harehope, there is an ancient specimen of the Marten, preserved along with a Polecat, and some other *feræ naturæ* now extinct, or become very rare, in the district. This was doubtless killed in the vicinity at a time when these animals were still denizens of the neighbouring woods, but wherever a stuffed specimen now exists in the county it is looked upon as a 'rare beast'; though so comparatively short a time ago, as in 1863, Messrs. Mennell and Perkins, in their 'Catalogue of the Mammalia of Northumberland and Durham,' quoted by Mr. Harting, were able to write of this species, 'Although it cannot be called common, it is widely distributed over both counties.'

"In the 'Proceedings of the Berwickshire Naturalists' Club' (vol. vii. p. 505), the late Mr. Andrew Brotherston, of Kelso, recorded that on the 6th July, 1871, he and a friend saw an animal, upon the English side of the Cheviot Hills, which they 'were almost certain was a Marten.' It came from amongst the masses of loose stones below the cliff in the Bizzle (a rocky gorge running almost to the summit of the highest peak of the Cheviots), and made off across the hill; and there is no reason to suppose that so good an observer as Mr. Brotherston was likely to be mistaken in his surmise as to its identity. Another 'strange animal,' which was reported to me as having been seen near Twizell House, the residence of the late Mr. P. J. Selby, in 1884, it seems not improbable may have been of this species; but I have no other note of any recent occurrence in Northumberland.

Few of even the oldest keepers can remember ever to have seen one alive, and those who do generally wind up with some such remark as 'forty or fifty years ago I killed one, but with the steel traps we have long since cleared off all such vermin as that.'

"Some bones of the Marten were identified amongst those of the Red-deer, the Badger, the Great Auk, and many others, which were taken from the caves at Whitburn Lizards, in 1879, and sent to the Newcastle Museum by Mr. John Daglish ('Natural History Transactions of Northumberland and Durham,' vol. vii. p. 363); but this, though very near the boundary of Northumberland, is upon the Durham side of the Tyne. While, though rather foreign to the subject of this note, it may not be out of place to mention that two very good specimens in my possession were killed near Cark-in-Cartmel, Lancashire, in 1884 and 1885.

"Before concluding, I would point out that, owing probably to a *lapsus calami*, the Marten referred to by Mr. Harting as having been 'killed' on the North Tyne, in July, 1871, will be found, on turning up the reference given ('Naturalist,' 1886, p. 278), to have been only 'seen' by a gentleman while fishing, but fortunately allowed to escape." We have since received confirmation of this from a relative of the gentleman referred to. The animal was seen to come down to the river and swim freely across of its own accord, that is, without being chased; showing that the Marten, like the Squirrel, although so arboreal in its habits, is by no means averse to water.

LINCOLNSHIRE.—Mr. A. E. Staniland, of 31, South Eaton Place, S.W., writes:—"In your list of Martens killed in Lincolnshire, I see there is not recorded one that was killed in Witheall Brackens, near Louth, some time in the seventies (I forget the exact date). It is now in the Oxford Museum. With regard to the Polecat, although it has become much rarer within the last few years in the east of the county, two have come to my knowledge as being trapped within the last month or two."

SUFFOLK.—Mr. G. T. Rope, of Leiston, calls attention to the omission from the last article of the following note which appeared in 'The Field' during the year 1889:—"A male specimen of the Pine Marten was shot on May 29th (1889) in a Scotch fir plantation at Sutton, near Woodbridge, by the head keeper to Mr. Burness, and is now in the hands of Mr. Aston, of Wood-

bridge, for preservation. It measured 27 inches in length, and weighed a trifle over 4 lbs. The keeper informs me that another was seen, no doubt the female. The one killed was carrying a full-grown young wood pigeon. — CHAS. E. FISHER (Supt. of Police).'

"The editorial footnote to this communication, expressing regret that this animal, now so rare, should always be destroyed whenever met with, probably represents the feelings of most readers of 'The Zoologist.' Indeed, the only wonder is that every possible effort was not made to protect it. This applies, too, with greater force if the second Marten reported to have been seen was indeed a female; as, from the secluded and wild character of that part of the country, it seems not unreasonable to suppose that they might have bred there. Though this particular Marten had in all probability escaped from confinement (perhaps in some travelling menagerie),* it would, I think, be difficult to find a district in the eastern part of the county of Suffolk apparently better suited to the habits of this beautiful animal. The parish of Sutton forms part of a wild heathy tract, bounded to the southward by the wide estuary of the River Deben, and abounding with fir-woods, some of them (as, for instance, Tangham Forest) of considerable size. At no great distance, too, is that small but magnificent bit of ancient woodland, Staverton Park, believed by some to be a veritable remnant of the primæval forest with which so large a proportion of our island was once covered. It would be hard (barring its limited extent) to imagine a more secure retreat for such an animal as the Marten than would be afforded by the many immense hollies and patriarchal ivy-clad oaks of this wood. Nature, indeed, seems here to have had her own way entirely, and for ages trees appear to have sprung up, grown to maturity, and at length died of sheer old age, without man's interference. Among the deep gloomy recesses of this old-world wilderness one might well imagine even the wolf still to lurk.

"My father remembers having seen, when a boy, an occasional Marten nailed up on a barn. This was near Ubbeston,

* We do not think this at all likely; not only because *two* were seen, but also because, so far as our experience, the Marten is not an animal usually procured and exhibited by owners of travelling menageries.—ED.

where was a large wood, then unpreserved, which also, in his recollection, not unfrequently held Polecats.

"It is a sad fact that there are so few English landowners who seem to take any interest whatsoever in the preservation of our few remaining wild animals, or who, like the late Charles Waterton, take more delight in attracting the living creatures about them, and studying their habits, than in securing stuffed specimens for a collection. If here and there the owners of a few adjoining estates would combine in affording protection to such creatures as the Badger, Marten, Otter, and the rarer birds of prey, particularly Owls of all kinds, surely something might even now be done at least to retard the inevitable extermination to which some of them are otherwise doomed.

"The particularly interesting account given in 'The Zoologist' for 1888 (pp. 6, 7), of the establishment of a thriving colony of Badgers in Leicestershire, shows that the reintroduction of that animal, at least in favourable localities, is quite possible; and I cannot but think that where large woods are numerous and not much disturbed, the Marten too might hold its own, if turned down at a season when food is plentiful, as in June or July. The chief drawbacks to the experiment would probably be the wandering habits of this animal, and the misdirected zeal of the "collector". The difficulty of procuring live Martens for this purpose from the Continent would, perhaps, be considerable, but the experiment would, I think, be far from impossible. I once saw a freshly-killed Marten at the shop of a Woodbridge birdstuffer (since dead) named Heffer, who told me it had just been brought over in a yacht from Norway."

BEDFORDSHIRE.—Mr. J. Steele Elliott, of Sutton Coldfield, noticing the absence of any records of the occurrence of the Marten in Bedfordshire, has been good enough to forward a copy of a long letter from "an old keeper of 45 years' standing," which appeared in 'The Field' of 5th May, 1859. From this communication, which is too discursive to print in its entirety, I make the following extracts:—"Martens are fond of large and old woodlands; their resort is the hollow old doddrel trees, in holes made by Woodpeckers,* sometimes in Kite's or Magpie's

* This must surely be a mistake. We never saw a hole made by any Woodpecker that was large enough to admit a Marten, or even a Squirrel, though we are well aware that this is not the first time the statement has

nests. I consider the Marten-cat one of the quickest animals we have; much sagacity, very shy, quick as lightning (the Squirrel I consider only second to the Marten-cat). My practice was to start and be in the coverts at daybreak, placing my guns (from knowing the likely trees in the woods) in different directions. Then I proceeded with my two couple of fox terriers, and if a 'cat' was in the covert it was sure to be found. One fine morning early, about forty years ago, I wended my way (with other keepers) to a celebrated wood, called Odell Wood, in Bedfordshire, where the Hon. Grantley Berkeley hunted the Oakley country (many a good day I have had with him; he knew Odell Wood well, a favourite woodland covert). Shortly after entering we got on a drag of a Marten-cat (my terriers never deceiving me). It was soon on its legs from tree to tree: scent glorious. Having killed 'cats' in the neighbourhood before, I knew the places of resort; made my way to an old favourite ivied tree, an old doddrel (as they are called in this part of the country), planted myself with my back against the oak, having the wind in my favour. After running the 'cat' for upwards of two hours (it having evaded the guns), up it came to the tree I expected: gun up immediately, but before I could take aim, I lost sight of it. My suspicions caused me to ascend the tree: looking into a Woodpecker's hole [?] and listening, heard a noise. My conclusion was the 'cat' was there. How to get it out was a consideration. That difficulty I soon surmounted; first I gave the 'view-halloo,' stopped the hole up with my handkerchief, kept the terriers at bay; off with my fustian jacket, tied up the cuff of the sleeve, put the shoulder part to the hole, and tapped the tree. Out came the 'cat' into the sleeve; tied that up, and gave it as security to one of my men for the purpose of bleeding my terriers. But curiosity led me to look into the hole, when something hissed and spat at me. I began to cut the tree (having got a hatchet), and found to my delight four kittens.* Suspecting the old 'cat' was a vixen from her shaggy fur, I took

been made. Pennant, in his 'Caledonian Zoology,' says of the Pine Marten that it is "found in pine forests, and takes possession of the holes made by the Woodpecker." But see Mr. Harvie Brown's commentary on this passage ('Annals of Scottish Natural History,' vol. i. (1892), p. 16).—Ed.

* A cavity large enough to contain a full-grown Marten and four young ones could hardly have been the hole of a Woodpecker.—Ed.

them all home, put the kittens in a corn-bin, and chained the old one up. She brought them up to full-grown. From handling them (separated from the old one, which I could never tame), I got the kittens as quiet and docile as the cats in our house. One I kept for years, the others I gave away."

GLOUCESTERSHIRE.—In the anonymously written 'Journal of a Naturalist,' by Mr. Knapp, of Thornbury, Gloucestershire, published in 1830, the following observation is made with regard to the Marten (p. 139):—"The Marten lingers with us still, and every winter's snow becomes instrumental in its capture, betraying its footsteps to those who are acquainted with the peculiar traces it leaves."

In the 'Annals of my Village' (Sheepscombe), by Mary Roberts (1829), the Marten, Polecat, and Weasel are mentioned (p. 84) as "occasionally seen in our woods"; and at p. 87 of the same work the following statement occurs:—"In looking over some memorandums (*sic*) for this month (April) I find that a brood of six young Martens were found in a hollow tree among the Ebworth Woods, near Painswick."

Mr. C. A. Witchell, of Stroud, writes that he was informed by Mr. J. Scott Haywood, of Frocester, that in a large aviary some years ago he kept a Marten which had been caught by a keeper at Berkeley. He adds that Mr. Burgh, of Cheltenham, when fishing near Frog Mill in that neighbourhood some years since, saw a Marten run along the side of the brook, and noticed that it was "a very ragged specimen."

Mr. W. B. Strugnell, of Stroud, saw one which had been shot ten years since (1881) in the Forest of Dean, and had been set up by the late Mr. White, taxidermist, of Cheltenham. He also, with Mr. Burgh, saw, at Mr. White's, another specimen, which was well known to have been shot at Chickley Hill, near Cheltenham."

(To be continued.)

NOTES ON MARINE MOLLUSCA COLLECTED ON THE
COASTS OF DONEGAL AND DUBLIN.

By H. CHICHESTER HART, F.L.S.

(Continued from page 56.)

Order PECTINIBRANCHIATA.

Patella vulgata, Linn.—Dublin and Donegal, common. Var. *depressa*, Melmore, Mulroy, Donegal; Howth, Dublin.

Helcion pellucidum, Linn. (*Patella*).—Dublin and Donegal, frequent. Var. *lævis*, Howth and Portrane, Dublin.

Tectura testitudinalis, Müll. (*Acmæa*).—Dublin: Ware Hole, Howth. Donegal: Mweelfinn, Sheephaven, rare.

T. virginea, Müll. (*Acmæa*).—Dublin: Howth, Ware Hole. Donegal: Mweelfinn, Sheephaven; alive at Drimnacraig, Fanet.

Emarginula fissura, Linn.—Dublin: Portrane, Portmarnock, and Howth. Donegal: Mweelfinn, Sheephaven; McCamish and Drimnacraig, Lough Swilly.

Fissurella græca, Linn.—Dublin: Howth and Portmarnock, rather scarce. Donegal: McCanish, Melmore, Mweelfinn, Dunfanaghy, and Kinnegar; more frequent in the northern county. Derry: Magilligan.

Capulus hungaricus, Linn. (*Pileopsis*).—Dublin: fresh specimens at the Velvet strand, Portmarnock, but scarce. Down: large living specimens trawled at Carlingford. Derry: Magilligan (Miss H. Galway).

Cyclostoma serpuloides, Montagu (*Skenea*).—Dublin: Kosh, Howth.

Trochus magus, Linn.—Dublin: Portmarnock and South Bull, but rare. Donegal: Inch, Lough Swilly; Melmore, Mulroy.

T. tumidus, Montagu.—Dublin: Portmarnock and South Bull, rare on the strands.

T. cinerarius, Linn.—Dublin and Donegal, common.

T. umbilicatus, Montagu.—Dublin and Donegal, common.

T. duminyi, Requien.—Donegal: Bundoran. I have not gathered this, and I mention it because, in speaking of Donegal shells, it seems wrong to omit a species which has no other British habitat.

T. montacuti, W. Wood.—Dublin: Portmarnock, a single specimen.

T. granulatus, Born.—Donegal: Kinnegar, Lough Swilly, *vide* Mr. T. Batt. of Rathmullan, who showed me specimens.

T. zizyphinus, Linn.—Dublin and Donegal, frequent.

Phasianella pulla, Linn.—Dublin and Donegal, frequent.

Lacuna divaricata, Fabr. (*L. vineta*, F. & H.).—Dublin and Donegal, frequent.

L. puteolus, Turton.—Dublin: Ware Hole, Howth. Donegal: Mweelfinn, Sheephaven, and near Dunfanaghy.

L. pallidula, Da Costa.—Donegal: near Dunfanaghy and at Mweelfinn, Sheephaven.

Littorina obtusata, Linn. (*L. littoralis*).—Dublin and Donegal, common.

L. rudis, Mahon.—Dublin and Donegal, common.

L. litorea, Linn.—Dublin and Donegal, abundant.

L. neritoides, Linn.—Dublin, frequent.

Rissoa parva, Da Costa.—Dublin and Donegal, abundant.
Var. *interrupta*, common.

R. membranacea, Adams (*R. labiosa*).—Dublin and Donegal, frequent.

R. striata, Adams.—Dublin: Portmarnock, common. Donegal: Inch, Lough Swilly, frequent. I have gathered other *Rissoæ* at Inch Island, Lough Swilly, and at Portmarnock, but have not had them identified to my satisfaction. Inch, I should say, is an excellent hunting ground.

Hydrobia ulvæ, Pennant.—Dublin and Donegal, common.

Barleeia rubra, Montagu.—Dublin, one specimen at South Bull. Donegal, found at Bundoran by Jeffreys.

Homalogyra rota, Forbes & Hanley.—Dublin: Howth (Kosh). It has been taken in Donegal by Mr. Warren and Mr. Barlee (Forbes & Hanley).

Cæcum trachea, Montagu.—Dublin: Portmarnock.

Turritella terebra, Linn.—Dublin, very common; and up the east coast to Derry, where it is particularly abundant at Lough Foyle. In Donegal it is quite scarce; near Melmore (Mulroy) I have gathered old specimens. Its distribution, with regard to Donegal, is similar to that of *Cyprina islandica*. Either Lough Foyle, or the northernmost headland, Malin Head, or the two combined, forms an important biological boundary.

Scalaria communis, Lamarck.—Dublin: South Bull and Portmarnock, scarce. Derry: Magilligan (Miss H. Galway).

Donegal: Kinnegar strand, Rathmullan, Lough Swilly, but very scarce.

S. turtoni, Turton.—Dublin: Portmarnock.

Aclis unica, Montagu.—Dublin: Portmarnock strand, opposite Baldoyle.

Odostomia.—I have not ventured to determine the minute species of this complicated genus. *O. plicata* occurs at Portmarnock, and I have found some at Inch Island in Lough Swilly. But they seem to be very scarce in the northern waters, as compared with Dublin Bay.

(To be continued.)

NOTES AND QUERIES.

Albinism in Birds and Mammals.—Adverting to my note in 'The Zoologist' of last year (p. 358), on the subject of the colour of the iris in albino birds, I have delayed replying to my critics until after the Bird Show at the Crystal Palace; this has now taken place, and I trust you will allow me to renew the discussion. I am very much obliged to all those who have kindly assisted me in furnishing information on the subject, both in print and in private communications, and especially to Mr. Edgar R. Waite, who has evidently taken considerable trouble in the matter. To those who hold the view that unless an animal has pink eyes it is not an albino, it is useless for me to bring forward any arguments; but I notice that Mr. Aplin appears to admit the probability of some albinos having other than pink irides, by using the words "almost always" in his communication (Zool. 1891, p. 426). The Greenfinch and two Budgerigars, mentioned by Mr. Verrall as having pink eyes, were certainly not albinos. I have a perfect recollection of having seen the three birds in question, and they were what I should term xanthous varieties. It is clear also that there is a difference of view as to what constitutes a pink eye. Mr. Verrall, whose opinion I value highly, states that there were no true albinos exhibited at the last Crystal Palace Cage-bird Show, and Mr. William Ingram states of albinos he bought "one Blackbird and a Hedgesparrow at that show" (*l. c.* p. 426). The following albino birds were exhibited at the Crystal Palace Show which was held at the end of February and beginning of March last:—a pure white Blackbird; legs pink; eyes the colour of a dark carbuncle in the pupil; iris slightly blue. A pure white Starling; legs and beak pink; eyes dark. A pure white Jackdaw; legs pink; beak with a very slight dark streak; eyes blue. Six Java Sparrows, all as white as snow; legs and beaks pink; eyes of the normal dark colour. Four white Doves, *Turtur risorius*,

absolutely free from a trace of colour; but the eyes normal. With regard to the last-named birds, Mr. Blagg, of Cheadle, who breeds them, has furnished the following information, which I give in his own words:—"In the white *Turtur risorius*, the young have a pale bluish grey iris, with a dark red pupil; the adults have dark red iris, with practically black pupil, as have the ordinary *T. risorius*. The white *T. risorius* has a light pink beak in place of the dark beak of the ordinary variety." It will be seen that the albinism of this species does affect the colour of the eye in the young, but not in the adult. I by no means deny that some albino birds belonging to certain families have pink eyes, but certain other albinos are not so distinguished. For instance, Mr. Blagg informs me that at a poultry and bird show at Cheadle there was exhibited "a white Blackbird, a pure albino, every feather white; legs light flesh-colour; beak and eyelids yellow; eyes (pupil and irides) pink as in white rabbits." Mr. Farn informs me that he obtained last year a young white Coot, the eyes of which were pink. The object I had in view in writing my previous note on this subject was to controvert the statement that "the eyes are pink in all albinos." This, I am quite convinced, is not the case. There are two well-known varieties of the Common Duck, both white; one, the little white "call-duck," with bright yellow beak and legs, which I do not consider an albino; and the other, the "Aylesbury," which is perfectly achromatic—feathers, flesh, beak, legs, and even eggs, all pure white—and, I take it, must be an albino; but the eyes are of the normal colour. Then amongst common fowls there are pure white ones which are not albinos, the colour of the legs showing that they are not so: but there are others entirely without colour, which nevertheless have normal eyes. In the case of the Common Pigeon there are also white birds which I do not regard as albinos, and others that, in my opinion, as certainly are so. Take one variety as an illustration: a "Blue Dragon" has rich reddish ochreous-coloured eyes; the pallid forms, such as the "Yellow" and "Silver," have much paler-coloured eyes, but in the albino the eyes are the colour of a dark carbuncle. In breeds where this dark eye is a defect, birds are bred which in the nestling plumage show traces of colour and have normal eyes, and yet in a moult or two become white. This fact of birds changing to white with age is not uncommon. I have known of black pigeons and black poultry becoming in a single moult pure white, so far as the feathers were concerned; and in some black ducks I have observed the same change taking place, but spread over several moults. This Mr. Verrall and I have both observed at Lewes. *Cygnus immutabilis* is usually considered an albino of the Common Swan, but its eyes are not pink. With regard to albino Mammals, I should certainly not consider any species of the *Rodentia* to be an albino unless it had pink eyes—at least I have never seen an exception. Indeed, amongst the species of this order it is not unusual to find partially pied

varieties with pink eyes. The breed of rabbits known absurdly as "Himalayas" have dark-coloured nose, ears, feet, and tail; yet the eye is pink. The Cavy, which belongs to such a totally distinct family, marked in the same manner (with the exception, of course, of the tail), has likewise pink eyes. There are several of this variety at present in the Zoological Gardens. Amongst the *Mustelidæ*, *Procyonidæ*, and *Ursidæ*, the pink eye is always, so far as I know, correlated with albinism. There is at present in the Zoological Gardens, Regent's Park, a Raccoon purely white, with eyes as pink as those of a white rabbit or mouse. I have never myself seen any of the *Canidæ* or *Felidæ* with pink eyes, though I have acted as a judge of cats for twenty years. I must have seen many hundreds of albino cats. These had either yellow eyes (and were perhaps only white cats) or pale blue eyes, which I consider indicate, in cats, pure albinos. Albinism is no doubt a defect, and white cats with blue eyes are very often perfectly deaf. Occasionally one is exhibited with odd eyes—*i. e.* one blue and one yellow. With the *Equidæ* it is, I believe, a fact that some of the Royal cream-coloured horses, which are clearly not true albinos, have pink eyes, and my brother, Harrison Weir, tells me that he has seen a white horse with pink eyes. To conclude, I hold that albinism and pink eyes are not always correlated; that pink eyes are found in other than albinos; and that there are pure albinos which have not pink eyes.—J. JENNER WEIR (Beckenham, Kent).

MAMMALIA.

The Gisburne Herd of Wild White Cattle.—The Wild White Cattle formerly existing at Gisburne in Craven seem to have had the same tendency to produce flecks of colour on the head and shoulders which is observable in all the surviving herds. The stuffed cow in the Owens College Museum at Manchester has several small roan-coloured spots on the cheeks and neck, and others on the flanks. This animal was described by the late Mr. Storer as having the ears white inside and out. Time and ungentle usage have left but little hair on the ears at all, but what remains is distinctly red. When Mr. Storer saw this specimen it was probably in one of the badly lighted rooms of the old Museum, and the coat had become so dirty in the Manchester atmosphere that these details no doubt escaped his attention.—CHAS. OLDHAM (Ashton-on-Mersey).

Earliest use of Foxhounds.—With reference to your remarks on the earliest Foxhounds in the West of England (Zool. 1891, p. 325), I think the following extracts may be of interest:—'Historical MSS. Commission,' Twelfth Report, Appendix ix. p. 67. The Marquis of Worcester to the Marchioness, Nov. 15th, 1677:—"Wishes he had fox hounds to spare, as the Prince of Orange is mighty desirous to get a good pack, and has asked for some." P. 67, the same to the same, Jan. 24th, 1678:—"I do not

think I shall lend (or send) the Prince of Orange any hounds, therefore Duke need not covet to get any more." P. 75, the same to the same, Dec. 5th, 1678:—"The hounds the Duke names, will not—according to their character—be proper for Lord Salisbury, he having nothing but buck and hare. Therefore I would have him propose some harriers, my Lord says he cares not what colour, therefore if the reddish dogs be good harriers they will be proper, &c."—H. A. EVANS (United Service College, Westward Ho, N. Devon).

Natterer's Bat in Notts.—In June, 1888, a specimen of this bat, in my possession, was picked up dead, under an old hollow walnut tree here. In the article on this species in 'The Zoologist' for 1889 (p. 247), Nottingham is noted as one of the counties from which, up to that time, it had not been recorded.—L. BUTTRESS (Grove, near Retford, Notts).

BIRDS.

Ornithological Notes from Scarborough.—During the last few weeks several birds have been obtained at Scarborough, the occurrence of which it may be of interest to note. On Dec. 19th an immature specimen of the Eider Duck, *Somateria mollissima*, was shot at the Castle Foot. It was one of four which for several days before had haunted the locality. They were generally seen in the early morning, diving in search of food, about 150 yards distant from the edge of the rocks, and, although many shots were fired at them, they remained about until this one was shot. The survivors have not since been seen. On January 18th a female Rough-legged Buzzard, *Buteo lagopus*, was shot at Scalby. It was in immature plumage, and measured $4\frac{1}{2}$ feet in expanse of wing. Harassed by a number of Crows, it took refuge in a tree close to a farmhouse, where it was approached without difficulty, and shot. The stomach on dissection proved to be empty, although the bird was plump and fat. On Jan. 20th a mature specimen of the Eared Grebe, *Podiceps auritus*, was shot on the north shore whilst diving about in a large pool in the rocks. This bird and the Eider Duck before mentioned have been preserved for the local Museum. Many Swans have been seen lately, but not sufficiently near for identification. The majority were passing in a northerly direction, at an altitude of about 200 yards.—WILLIAM J. CLARKE (44, Huntriss Row, Scarborough).

Bullfinches in Kensington Gardens.—I saw last autumn (1891) a Bullfinch feeding upon the buds of an almond tree in the flower-walk close to Kensington Gardens. I noticed that it was very tame, and enquired of the park keeper if he knew whether it were an escaped bird or not. I then heard the following curious story, since which I have ascertained is perfectly true:—In the summer of 1890 a gentleman returning from Siberia brought back with him a pair of Bullfinches, *Pyrrhula major*. He kept

them in his rooms at Westminster, and one day the cock bird escaped, and in consequence the hen was liberated, and soon joined him. They found their way through St. James's and the Green Parks to these Gardens, where the owner saw them, and identified the cock bird by the tune he had taught him to whistle. The pair remained in the Gardens all through the bitter winter of 1890-1, and brought off four young ones in the spring, and it was one of these which I saw. I was immediately struck by the size of the bird; and I cannot help thinking that if any of these had been killed in the home counties, and sent up for identification, *P. major* would have been recorded as an occasional visitor to this country.—W. H. TUCK (Tostock House, Bury St. Edmunds).

Buffon's Skua and Bittern in Devon.—The Long-tailed or Buffon's Skua is a rare visitor to Devon, having been obtained hitherto on two occasions only. The last recorded example was shot in June, 1860, on the South Devon coast. In October last two immature specimens of this Skua were obtained near Exmouth, both of which I had the pleasure of examining. On the 14th of the same month a small flock appeared on Thurlestone Sands, South Devon; several of these were shot, the majority of which proved to be immature birds. A Bittern was shot near Exeter during the first week in November last, and was submitted for my inspection by Mr. Truscott, of Exeter, who had received it for preservation.—W. E. H. PIDSLEY (Exeter).

Supposed Hybrid between Song Thrush and Blackbird.—I have recently obtained a bird which may possibly be a hybrid between *Turdus musicus* and *T. merula*. It was brought to me in the flesh on Oct. 23rd, 1891, having just died in a cage. In July of that year it was taken, with other young birds, from a nest near Bodicote, and it passed to another owner during the early autumn. The other birds in the nest were normal Song Thrushes. One of them, I am told, is living in Banbury now, and is a normal Song Thrush (or as my informant, the late owner of the supposed hybrid, says, "a common Whistling Thresher"), and sings the Thrush's song. The present bird had, its late owner avers, moulted before it came to him in the autumn (he saw it in nestling dress); but its tail being much broken, he pulled out the stumps of the feathers, and a new tail, about an inch long, had grown at the time of the bird's death. I am, however, inclined to think it had never shed its wing-quills, or those of its tail until they were pulled out. The small feathers of the head and body are, no doubt, new, although some of the wing-coverts are still marked. But the late owner assures me its first dress was very dark also, quite as dark as that assumed at the moult in fact. He called it a curiously coloured Thrush; said it sang beautifully—the Thrush's song; and when I suggested a relationship to the Blackbird he smiled at the idea. However, when I took it to a birdstuffer to skin for me, and asked him what it was, he looked

it carefully over and said it was a Blackbird! The general look and "cut" of the head is that of a Blackbird, although it is smaller. Its bill is slightly longer and larger than that of the Song Thrush (it looks more so than the foot-rule shows it really is), and much darker in colour, approaching in this respect that of a young Blackbird. The tarsi are very slightly stouter than those of a Song Thrush; they are very light-coloured, but the legs of cage birds reared from the nest are apt to exhibit this peculiarity. Irides dark brown. Upper mandible dark horn; under mandible with sides dull pale pink, rest dark horn. Gape very pale yellow; inside of mouth flesh, with strong tinge of pale yellow. Legs dull pale flesh. Top of head and upper parts umber-brown, a greyish tinge on some of crown feathers. Ear-coverts dark brown. From the nostrils round gape and over eye, taking in lores, nearly black. Oval patch on chin, and upper throat, pale drab. Throat, front of neck, and upper breast, nearly black. Sides of neck brown, this colour running into the black in places. Feathers of lower breast and belly nearly black, with narrow edging of light buffish white. Lower belly pale drab to dirty white. Under tail-coverts brown. Tail brown. Wing-quills hair-brown on outer web, rest dark brown. Coverts light brown, marked irregularly with yellow-buff and nearly black. I dissected the body, which seemed healthy. There is, of course, a possibility of the bird being merely a melanitic variety of the Song Thrush, but it is not only in colour that it differs from the type of that species; the slightly larger beak and slightly stouter tarsi, and the general resemblance of the head—in shape as well as colour—to that of a Blackbird, must be taken into account. Upon the subject of the interbreeding of the Blackbird and Song Thrush, readers may be referred to two papers by Mr. Miller Christy, in the 'Transactions of the Norfolk and Norwich Naturalists' Society,' in which records of all the supposed instances have been brought together and discussed.—O. V. APLIN (Bloxham, Banbury, Oxon).

Birds of the Isle of Man.—In Mr. Ralfe's list (pp. 93—100), the Chiffchaff, amongst other species, is stated to be absent from the Manx avifauna; so I presume that it is excluded also from Mr. Kermode's list. On April 18th, 1882, I heard and saw a Chiffchaff in full song in the Nunnery Grounds, near Douglas. I also recollect being told by my brother, Mr. John D. Moffat, in the spring of 1874, that he had heard one in a glen near Bemahague. As to the Blue Titmouse, also omitted from the Manx list, this, I am sure, is merely a case of extermination within recent years. Mr. J. D. Moffat occasionally saw this bird in the neighbourhood of Onchan between 1872 and 1874. The Bullfinch, referred to among the birds which are "either very uncommon or of exceptional occurrence," is, I believe, still resident in the island. One was seen near the Isle of Man Asylum in 1887 by Mr. Hugh H. Moffat, as he informed

me by letter. He particularly noted the circumstance, for previously to seeing it he had been informed that the Bullfinch was extinct in the island. Mr. Ralfe does not mention the Kingfisher, which is occasionally seen on the island burns, nor the Twite, of which specimens obtained in June were sent from the Isle of Man by Mr. J. F. Crellin to Mr. A. G. More, as mentioned by him in 'The Ibis,' 1865, p. 130. The Golden Plover I have seen near Castletown quite early in August, in which month also the Wheatear is often exceedingly abundant along that part of the coast. In August, 1880, I saw the old racecourse and the sward of Langness literally swarming with Wheatears. On the same occasion some Wild Ducks (a species not mentioned by Mr. Ralfe) were seen by me on the Silverburn; so tame, that I mistook them for the domesticated variety until they surprised me by taking flight. On the 12th September, 1891, I saw hundreds of Pied Wagtails (in immature plumage) haunting the margin of Castletown Bay; I had seen no such hosts of them in Ireland since 1874. Among other common birds not mentioned by Mr. Ralfe, I may remark that the Golden-crowned Wren thrives in sheltered localities; the Common Wren, though somewhat inhospitably scheduled as "Partially Destructive" in the insular Wild Birds Protection Act, still holds its own; the Starling has, I think, greatly increased of late years; and the Whitethroat, Willow Wren, Cuckoo, and Corncrake are well-known regular summer visitors.—C. B. MOFFAT.

Rough-legged Buzzard in Hants.—On Nov. 17th, 1891, Mr. Fisher saw a large hawk about three and a half miles from Winchester, and on the 14th February last he and I saw a large hawk near the same place, which we took to be a Buzzard. It was circling over a rabbit-warren, in quest, I suppose, of rabbits. The place is very bare and flinty, a grey lichen and little groups of stunted elder trees being the only vegetation. On March 13th we were walking over the warren, when we saw a large hawk flapping its wings on the ground under an elder tree. It proved to be a Rough-legged Buzzard (*Buteo lagopus*), caught by the left leg in a large gin baited with a rabbit; its claw hung by a piece of skin only, the leg having been broken clean below the so-called knee-joint, and the poor bird must have been in the trap for over 24 hours. Setting aside the cruelty of trapping these birds, surely it is unmerciful to leave them so long in the gin. As it was Sunday, it would probably have remained in for another twelve hours till Monday morning. We bandaged up the wounded leg, and are keeping the bird in hopes of its recovery. The measurements are—across the wings, 48 in.; total length, 21 in.; from which somewhat small dimensions, compared with those given in 'Yarrell,' I should infer that it is a young male. This is the first occurrence, I believe, of this species observed near Winchester, though one was seen round Stockbridge in February last.—SUTTON A. DAVIES (Winchester).

White Wagtail in North Wales.—A noticeable feature in the spring migration of 1891 was the abundance, in this district, of the continental White Wagtail (*Motacilla alba*). The first bird of this species I noticed was feeding on a freshly-ploughed field, in company with about a dozen of the common species (*Motacilla lugubris*), on March 4th, all apparently males, and no doubt a migratory party. I did not see another till April 5th, when one appeared by a farmyard pond, and another—or perhaps the same bird again—on a neighbouring marsh. At dusk, on April 9th, with a strong E. wind, I observed an immense assemblage of Wagtails on a muddy backwater on the Carnarvonshire side of the River Glaslyn. The light was too bad to distinguish the species, but I believe this flock contained several White Wagtails. I visited the spot early the next morning, but the party had passed on, and not a single bird was to be seen. On the 20th, with a light E. wind, two White and several Pied Wagtails appeared along the banks of the Glaslyn. On the 21st there were quite a dozen White, with a few Yellow, and many Pied Wagtails at the same place. On the following day both species had considerably increased, and I saw quite a score of White Wagtails, but no Yellow ones. The next day (23rd) my brother saw about half-a-dozen on the edge of Llyntecwyn. On the 24th they were still numerous along the Glaslyn, and continued so till the 27th, on which day the numbers of both species had considerably decreased, the strong E. wind, which had been blowing since the 21st, having gone down. I did not visit the marsh again until May 2nd, when the White Wagtails had entirely disappeared; but on the following day I saw a single bird on the Port Madoc embankment.. A very large majority of both species appeared to be males. The White Wagtails were decidedly wilder than the common ones, and their note seemed to me to differ; indeed, I should have overlooked those seen on April 20th, if this difference had not drawn my attention to them. This Wagtail is a rare bird in the district, though probably, if the large flocks of migratory Wagtails which pass through every year in March and April were carefully examined, it would be found to be of annual occurrence.—G. H. CATON HAIGH (Aber-ia, Penrhyndendraeth, Merionethshire, North Wales).

Hybrid Teal and Wild Duck.—In the March number of 'The Zoologist' (p. 109) I noticed a hybrid between a male Teal and a female Wild Duck, which had been lately shot in Anglesea. In the editorial note appended thereto it is stated that this is the hybrid figured in the earlier editions of Yarrell's 'British Birds' under the name "Bimaculated Duck." But, upon referring to the latest edition of that work (vol. iv. p. 389), I find that Mr. Hancock was "convinced that the so-called Bimaculated Duck is a hybrid between Teal and Wigeon." The bird I examined in Mr. Small's shop in the flesh was distinctly, to the utmost of my belief, a hybrid—as I stated—between the Teal and Wild Duck, and had *yellow feet*, besides the

partially developed upcurving of the central tail-feathers, and the other markings already described by me (*loc. cit.*), which clearly indicate its relationship, however much it might otherwise resemble a Wigeon. Neither the Teal nor the Wigeon has *yellow* feet, but the Wild Duck has, and the cross, or hybrid, which I described certainly had yellow feet. The bird was, I believe, sent to Messrs. Rowland Ward & Co., London. The colour of the feet may have (and doubtless has) faded, but in the flesh they were distinctly *yellow*. Besides, the whole markings distinctly point to the hybrid having been Teal and Wild Duck, as already described, so far as I can discriminate.—J. A. HARVIE BROWN (Dunipace, Larbert, N.B.).

[We examined the bird in question on its arrival in London, and came to the conclusion that Mr. Harvie Brown had correctly indicated its affinities. Whether the so-called "Bimaculated Duck" is a hybrid between Teal and Wild Duck, or between Teal and Wigeon, is another question. The opinion of the late John Hancock is one which must certainly carry weight; but in our opinion the original descriptions by Vigors, who wrote *pedes lutei, membrano in medio nigro* (Trans. Linn. Soc. 1824, vol. xiv. p. 559), and Selby, who described the "legs and feet pale orange" (Ill. Brit. Orn. vol. ii. p. 321), favours the view that the cross was one between Teal and Wild Duck. It is true that they describe the tail as having "the two middle feathers black, narrow, acuminate, and much longer than the rest," in other words, not curled upwards as in the Mallard; but this might depend upon whether the parent Wild Duck was male or female (see 'Yarrell,' 1st ed. 1843, vol. iii. p. 165).—ED.]

Song of the Redpoll.—I can corroborate some remarks under the above heading by Mr. C. A. Witchell (Zool. 1891, p. 398), which has only just been brought to my notice. As a keeper of birds in captivity for twenty years, I can say with the greatest confidence that no person of experience wishing to possess a bird with the natural wild note would ever dream of having a bird from the nest, or a "brancher"; it being well known that young birds imitate the notes, more or less, of the birds that they hear. Birds do not sing, as a rule, till the spring following that in which they were hatched. In Germany young Canaries are "trained" under Nightingales and other birds; the process simply consists of their cages being hung in close proximity to the bird whose song they are wanted to imitate; from all others they are carefully isolated. The natural song of the Canary is loud and harsh in a room, but it does not sound so when the bird is flitting about the orchards and gardens of its native island in the sunshine. Although I tried to avoid buying birds of the year for the above reasons, I once purchased a cock Siskin for breeding purposes, which had the most perfect Goldfinch's song. I was very anxious to see whether the young would follow their parent's song or their own natural song, there being other Siskins in the room; but I regret to say that I failed to breed from him.

To pass from birds in captivity to those at large, there is abundant evidence that wild birds pick up the notes of others, and incorporate them into their own song. Many instances have come under my notice. Some years ago I noticed that the Sky Larks in the Reculver Marshes in Kent introduced into their song the most perfect imitation of the alarm note of the Ringed Plover. The explanation was very simple. The Plovers nested on the top of the sea-wall, which was also used as a foot-path, and, being constantly disturbed, were continually flying round, uttering the alarm note, which the nestling Larks in the adjoining reclaimed fields did not forget. In another case, while sauntering about a rector's garden in Sussex one fine morning in January, I heard the song of the Blackbird, as I thought; but knowing that it was too early for that bird, I quietly approached the songster, and discovered, that it was a Starling. The imitation was almost perfect.—J. YOUNG (64, Hereford Road).

[In Sussex some years ago we repeatedly heard the Sky Larks in the marshes between Pagham Harbour and Selsea Bill, imitating the notes of the Ringed Plover and Redshank, both of which species used to breed there, the former on the great shingle beach, which almost closed the entrance to the harbour (since drained alas!), and the latter in the neighbouring marshes. So perfect was the imitation that it was only by looking for the author of the notes that we were undeceived. In February last, while staying on a visit in North Wales, we were much entertained with a Starling near the house, which not only uttered some of the Blackbird's notes, but, much to our surprise, those of the Curlew also. This was explained by the proximity to the Menai Straits, and to the fact that the Curlews at high-water frequently leave the mud-flats and come into the Park, where we have seen them feeding on the old pasture in flocks of thirty or forty. On being disturbed, their cries would be quite audible to the Starlings near the house.—ED.]

Nesting of the Chiffchaff.—Whilst reading with interest the notes on this subject by Mr. Ellison (Zool. 1891, p. 470), and by Mr. Read in your last issue (p. 111), I have been reminded of a case where a Chiffchaff, building in our garden at York, placed its nest in an Austrian pine at least nine feet from the ground, as measured by me at the time. The frail structure was placed at or near the end of a branch among thick foliage. I have also seen a nest in a small cedar tree, elevated, say, 18 in.; but these two instances are the only ones of which I have any note where the nests have been actually off the ground. In our garden, a wonderful variety of positions are sometimes chosen; for example, the midst of a patch of pink, where detection was very difficult, and on the bare ground, where not the smallest attempt had been made at concealment. In most cases the nests are made mostly of dead leaves, but I have noted an instance where moss was the material employed.—J. BACKHOUSE (Harrogate).

Great Grey Shrike in Gloucestershire.—On Nov. 18th last a male example of *Lanius excubitor* was shot at Lower Ginting, in this county, and is now in my hands for preservation.—A. L. CLARKE (Gloucester),

Nesting of the Black Scoter (*Oidemia nigra*) in Sussex.—At last I find time to answer your inquiries relating to the Black Scoter nesting at Earnley Marshes, near Chichester. The brood last year (1891) consisted of seven, and I purposely shot the old drake for my collection. I am sorry now that I did not get any of the young; I could easily have done so. When I first saw them they could just fly, but only a short way. I saw the two old birds off and on all the summer, withing thinking of the probability of their nesting, or caring much about it. In August I flushed the family, and shot the old male. Since writing first I have made inquiries, and find that the Black Scoter nests here every year. I will try to find the nest during the coming season, when you shall hear from me again.—CHARLES FOWLER (South Bank, Chichester). (Communicated by Mr. J. Anderson, Hon. Curator, Chichester Museum).

[This statement is so remarkable that we have applied for further particulars.—Ed.]

An Albino Coot.—On June 1st, 1891, I received, in the down and in the flesh, an albino Coot, *Fulica atra*, from the neighbourhood of St. Osyth. It was probably not more than four or five days old. The crimson and yellow hair-like processes on the head were as in an ordinary immature Coot of similar age. The legs were pale orange and the eyes red. With these exceptions the bird was white. Retaining the crimson and yellow on the head appears to me to be a curious circumstance.—A. B. FARN (Mount Nod, Greenhithe).

An unidentified Water-bird.—I should be much obliged if you, or any readers of 'The Zoologist,' could give me an opinion as to the species of a bird I heard and saw on Llangorse Lake, Breconshire, at dusk, on a November evening in 1889. I had just landed from a boat, after a shooting trip round the lake, when I heard a bird-note that was quite new to me. It came from a belt of reeds which fringe the lake near the landing-place, and, on my walking to a point near the spot whence the sound came, I could indistinctly see a small bird swimming among the reeds, but owing to the darkness I was unable to identify it. I could not shoot, as the boatman was in the line of fire; and it soon disappeared among the reeds. The boatman, who was on the water on the lake side of the reeds, had a better view of it, and described it as "a little greyish bird, about the size of a Snipe." The note of this bird resembled the syllable "kik," rapidly repeated about seven or eight times, varied by a clear whistle. I think it must have been one of the small rare crakes, but, according to my bird-

books, no mention of a whistle is made in the description of the note of either the Little Crake or Baillon's Crake. It has been suggested to me that the bird in question was one of the Phalaropes, but I believe the note of this species is very different to that above described. — E. A. SWAINSON (Woodlands, Brecon).

[We should think the bird in question was more likely to have been a Spotted Crake, which looks very small when swimming, owing to the legs being invisible, half the body submerged, and the feathers of the dorsal plumage compactly compressed; but the description given is too vague to warrant any decided opinion as to the species.—ED.]

REPTILES.

Variations of the Viper.—Having at various times kept Vipers—altogether about a dozen—in captivity, I was much interested in Mr. Boulenger's paper (pp. 87—93) on the variations of that species, and I venture to suggest that, in treating of variation in colour, he has not sufficiently taken into account the effect of sloughing. He does not state whether he kept any of his specimens alive, or whether he knew of any of them having recently cast their skins. I have seen a very dusky male Viper (*Pelias berus*) become by this process one of the lightest, its ground-colour being changed to a light stone-grey; and I have also seen a Common Snake (*Tropidonotus natrix*), which was of a mahogany or dull red hue, change in a similar way to a lovely and lustrous green, with every black mark as distinct as though mapped in with printers' ink. Judging by some twenty years' observation of British Vipers, Snakes, and Lizards, both in their wild state and in large cages, I conclude that in all these reptiles, and also in the Slow-worm (*Anguis fragilis*), the size of head is of value as indicating age. I am certain that when first the young attain a fair average size, their heads, in comparison with their bodies, are proportionately much smaller than those of more mature individuals; and the firmness and weight of the cranial bones of some of the latter lead me to believe that these may have attained to a very considerable age. A Slow-worm I had, eleven years old, and eighteen inches long, was not nearly so marked in this particular, nor so robust, as several tailless specimens of the same species which I have seen. I have caught many more Vipers than I have kept; in fact, whenever I see a Viper I try to catch it,—with a fair chance of success,—and after holding it a little, in order to make it less careless and liable to be destroyed, I let it go. The largest I have ever seen was locally a giant; I kept it for two months, and again and again placed it in a long box, where I could measure it as accurately as a living snake ever can be measured, and it was considerably over 26 in., but not more than 26½ in. in length: 26¾ in. was about the exact extent of this specimen, which was a female. The head was very large, and when caught

it splashed drops of a transparent fluid from the mouth against the tin which it had to enter. But the snout had not the aspidian character mentioned by Mr. Boulenger (p. 89). It had received an injury at the base of the tail, and by this I identified it when recaptured two years after its first liberation. None of mine fed, though they readily drank, in their cages. Dr. Henry Bird, a very close observer, informs me that he dissected many Vipers which he caught in the Forest of Dean, where he practised, and that he several times found in them the common black Dew-slug, *Arion ater*; his notes as to sexual features coincide with those of Mr. Boulenger, as do my own. I am ashamed to add that I never attended to outward cranial differences; but next summer I intend to carry with me a piece of wax, and with this hastily take an impression from the upper part of the head of any Viper which I may catch. The moulds I will send to Mr. Boulenger next autumn, and I am sure that they will be sufficient to record the number of the various plates. There is no necessity for killing the specimens, unless particularly wanted for other reasons.—CHARLES A. WITCHELL (Stroud, Gloucestershire).

FISHES.

Greenland Shark at Lynn.—Mr. D. C. Burlingham was kind enough to inform me of the occurrence of a male Greenland Shark, *Lamargus borealis*, which measured 14 feet 2 inches in length, and weighed $1\frac{1}{4}$ tons, at Lynn, on the 21st January last. It was found stranded on a sand-bank on the east side of the Bulldog Channel, and was brought up to Lynn by a fishing-smack, being still alive when Mr. Burlingham saw it. From Prof. Newton I learn that this fish was subsequently exhibited at Cambridge, and that its owner intended to take it to Huntingdon, Peterborough, and elsewhere. This species is of rare occurrence on the Norfolk and Suffolk coast, and the present example is only the fourth of which I have notes. During the autumn herring fishery, Porbeagles, *Lamna cornubica*, were unusually frequent, much to the annoyance of the fishermen, to whom they cause both trouble and loss by entangling themselves in the nets. Several fine examples were brought into Yarmouth and Lowestoft.—T. SOUTHWELL (Norwich). [See the dentition figured by Günther, 'Introd.' p. 333.—ED.]

Pipe-fishes in Cork Harbour and Killala Bay.—In 'The Zoologist' for February last Mr. Barrett-Hamilton has recorded the occurrence of the Æquoreal Pipe-fish, *Nerophis æquoreus*, at Waterville, Co. Kerry, and quotes Thompson for localities, which I can corroborate as to the Co. Cork; for when trawling in the "narrow channel" in Cork Harbour I often got this species, as well as the Great Pipe-fish, and one of the smaller kinds, which I think was the Lesser Pipe-fish. However, I have procured the last named off the island of Bartragh, Killala Bay, and it was identified by the

late Wm. Thompson himself, to whom I sent the specimen.—ROBERT WARREN (Moyview, Ballina, Co. Mayo).

Leptocephalus Morrisii at Killala Bay.—On February 26th, while walking on the sands outside the island of Bartragh, I found two specimens of this curious little fish, left by the previous tide at high-water mark, and although it was fully six hours since they had been thrown ashore, they both showed such vitality as to move about in a vessel of water for some time after they were found. The largest was fully six inches in length, and both were perfectly transparent, the only trace of colour that I could see about them was in the eye-balls. They were both thrown up on the sands within a few yards of each other. Although Thompson, in the fourth volume of his 'Natural History of Ireland, refers to the occurrence of this species on many parts of the Irish coast, I have never before met with a specimen.—ROBERT WARREN (Moyview, Ballina, Co. Mayo).

SCIENTIFIC SOCIETIES.

LINNEAN SOCIETY OF LONDON.

February 18, 1892.—Prof. STEWART, President, in the chair.

Mr. Stanley Edwards was admitted, and Messrs. C. Chilton, F. A. Skuse, and J. Humphreys were elected Fellows of the Society.

The President exhibited specimens of *Cystocelia immaculata*, an orthopterous insect from Namaqualand, in which the female is far more conspicuously coloured than the male (which is unusual), and the stridulating apparatus of the male differs in certain important details from that of other species. A discussion followed on stridulation in insects and the various modes of producing it, in which Messrs. C. Breeze, E. M. Holmes, and B. Daydon Jackson took part.

The President also exhibited some specimens of a crustacean, *Ocypoda ceratophthalma*, and communicated some interesting information thereon.

A paper by Prof. Groom was then read "On Bud-protection in Dicotyledons," and in his unavoidable absence, the author's views were expounded by Mr. B. Daydon Jackson.

Mr. W. T. Thiselton-Dyer, C.M.G., F.R.S., communicated a paper, by Herr F. Stephani, entitled "A Revision of Colenso's New Zealand *Hepatica*."

March 3.—Prof. STEWART, President, in the chair.

A letter was read from the Home Secretary, conveying the thanks of Her Majesty the Queen for the address of condolence which had been

forwarded on behalf of the Society on the death of H.R.H. the Duke of Clarence and Avondale.

The President announced the presentation, by Sir Joseph Hooker, M.D., K.C.M.G., to the Society of two medallion portraits of Sir James Ross and Dr. John Richardson, whose names are well known in connection with arctic exploration. The medallions were executed in 1843 by the late Bernhard Smith. A vote of thanks to the donor was passed unanimously.

Mr. Clement Reid exhibited a collection of fossil plants and seeds which he had found associated with the bones of Rhinoceros and other animals in the neighbourhood of Selsea and West Wittering. By means of diagrams, Mr. Reid showed the exact position of the bed, and described the condition in which the various specimens were deposited.

On behalf of Mr. W. E. Beckwith, of Shrewsbury, Mr. H. Seebohm exhibited a specimen of White's Thrush (*Turdus varius*, Pallas; *Oreocincla varia*, Seebohm), which had been shot in the parish of Moreton Corbet, seven miles from Shrewsbury, on the 14th January last. He pointed out that this species, which inhabits Eastern Asia, belongs to the subgenus *Oreocincla*, an exclusively eastern group of ground Thrushes, and is the only one which is palæarctic and migratory. It does not breed anywhere west of the Yenisei, and its occurrence in Europe is accidental. Mr. Seebohm added that it had been met with twice in France, four times in Italy, three times in Belgium, once or twice in Austria and Prussia, once in Norway, thirteen times in Heligoland (between 1827 and 1884), and about a score of times in the British Islands, including three occurrences in Ireland, and one in the extreme south of Scotland.

On behalf of Mr. A. Craig Christie, the Secretary exhibited some specimens, as was supposed, of *Lycopodium complanatum*, collected in Scotland, on which it was suggested that the plant might be regarded as British. In the opinion, however, of Mr. James Groves, who had carefully examined the specimens, and other botanists present, they were referable to *L. alpinum*. Mr. Groves pointed out the distinctive characters of both. Mr. Carruthers was of opinion that *L. complanatum* had been met with in the South of England, but not within the last ten years. Mr. E. M. Holmes was under the impression he had seen it growing a few years ago near Stroud.

A paper was then read by Mr. A. D. Michael on variations in the internal anatomy, and especially the genital organs, of the *Gamasinae*, a typical subfamily of the *Acari*. In this paper the author gave the results of two years' research, including many hundreds of dissections and serial sections, with lengthy observations of the living creatures. The comparison of variable organs was worked out in numerous species, showing great specific differences. Four of the species were found to be previously

undescribed, and for these the names *Hæmogamasus horridus*, *H. nidi*, *Lalaps oribatoides*, and *L. ligoniformis* were proposed.

March 17.—Prof. STEWART, President, in the chair.

Mr. E. M. Holmes exhibited specimens of *Phacelocarpus disciger*, a new species of sea-weed from Cape Colony, collected by Dr. Becker near the mouth of the Kowie River. One of the specimens exhibited bore antheridia which have not previously been described in this genus. The species differs from those already known in bearing the organs of reproduction on the surface of the frond instead of on the margin.

Mr. Buxton Shillitoe exhibited and made some remarks upon the flowers of *Leucojum vernum* and *Helleborus viridis*.

On behalf of Mr. Allan Swan, the Secretary read a paper "On the vitality of the spores of *Bacillus megatherium*," upon which criticism was offered by Mr. G. Murray.

Mr. J. B. Carlill submitted a paper entitled "Notes on Zebras," in which he discussed the position assigned to the Zebra in the genus *Equus*; the use and nature of striped coats; the contention that the sallenders on the legs of the *Equidæ* represent the hoof of the first digit of their polydactyl ancestors; and the evidence bearing upon Prof. Owen's view that the cave horse was in some respects zebrine. He concluded by advocating a systematic attempt to domesticate one or more species of Zebra for transport work. Domestication, he considered, would not only render these animals eminently useful, but would be the only means of preserving them from extinction.

ZOOLOGICAL SOCIETY OF LONDON.

February 16, 1892.—OSBERT SALVIN, Esq., F.R.S., Vice-President, in the chair.

Mr. W. T. Blanford exhibited two heads and a skin of the Yarkand stag, lent for exhibition by Major C. S. Cumberland, by whom they had been obtained, and proposed the name of *Cervus elaphus yarkandensis* for this form.

Mr. Sclater exhibited and made remarks on some living specimens of what are commonly called Spinning or Japanese Mice.

Mr. Sclater also exhibited and made remarks on some mounted heads of Antelopes from Somali-land, belonging to Capt. Swayne, R.E., amongst which was an example of the recently described Swayne's Hartebeeste, *Bubalis swaynei*.

Mr. A. Smith-Woodward exhibited and made remarks on examples of the supposed jaws and teeth of *Bothriolepis* from the upper Devonian Formation of Canada.

Mr. F. E. Beddard read a paper containing the results of his examination of the Chimpanzee "Sally" and the Orang "George," lately living in the Society's Menagerie. The author's remarks referred principally to the external characters and the muscular anatomy of these Anthropoid Apes.

A communication from Mr. A. G. Butler gave an account of a collection of Lepidoptera from Sandakan, N.E. Borneo.

Mr. G. A. Boulenger gave an account of a third collection of fishes made by Surgeon-Major A. S. G. Jayakar at Muscat, East Coast of Arabia. Amongst these was a specimen of *Histiogaster typus*, a fish described in 'Fauna Japonica,' but not since recognised; and an example of a new species of *Boa*, proposed to be called *B. lineatus*.

A communication from Dr. W. B. Benham contained a description of three new species of Earthworms from British Colombia and South Africa. These were proposed to be called *Plutellus perrieri*, *Microcheta papillata*, and *M. belli*.

Mr. F. E. Beddard read a paper on some new species of Earthworms of the genus *Pericheta*.

A communication was read, from Dr. H. Bolau, on the specimens of *Haliaetus pelagicus* and *H. branickii*, now living in the Zoological Gardens of Hamburg. Coloured drawings of these nearly allied Sea Eagles were exhibited.

March 1.—Dr. A. GUNTHER, F.R.S., Vice-President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during February, and called attention to two Short-winged Tyrants, *Machetornis rixosa*, purchased Feb. 15th, being the first examples of this bird that have reached the Society; and to a female Beatrix Antelope, *Oryx beatrix*, from Arabia, presented by Lieut.-Col. Talbot, Feb. 18th.

Mr. J. Graham Kerr gave a short account of the expedition up the Rio Pilcomayo in 1890-91, which he had accompanied as naturalist. Mr. Kerr made remarks on the animals met with on the banks of the Pilcomayo, and exhibited, with the aid of the oxy-hydrogen light, a series of photographs illustrating the vegetation of the district and its native inhabitants.

Mr. G. F. Hampson read a paper on stridulation in certain Lepidoptera, and on the distortion of the hind wings in the males of certain *Ommatophorina*. The author attributed the clicking sound described by Darwin as produced by various species of the South American genus of butterflies *Angerona*, and confirmed by Wallace and other observers, to the presence of a pair of strong corneous hooks on the thorax, which play on a pair of curved hooks with spatulate ends attached to the inner margin of the fore wing close to the base, and surrounded by a membranous sac which acts as a sounding-board. An account was given of a similar sound produced by

the males of a Burmese moth of the family *Agaristidæ*, and of a buzzing sound in an allied Australian form, both of which have a patch of ribbed hyaline membrane below the costa of the fore wing. The sound was attributed to the friction of spines, attached in the former to the first pair of legs, in the latter to the second pair, on the ribbed membrane. A description was then given of the transformation of the costal half of the hind wing in the Noctuid genus *Patula* into a large scent-gland, and of the manner in which this had distorted the neuration. The still greater distortion of the neuration in the allied genus *Argida* was attributed to its once having possessed a similar scent-gland, now become rudimentary by disuse.

A communication was read from Prof. W. N. Parker on the retention of functional gills in young frogs (*Rana temporaria*), which he had succeeded in producing in specimens reared in his laboratory. Prof. Parker described the method employed with this object, and made remarks on the way in which the fore limbs are protruded.

Prof. F. Jeffrey Bell read a paper entitled "A contribution to the Classification of Ophiuroids," to which were added descriptions of some new and little-known forms of this group.

Mr. M. F. Woodward gave an account of an abnormal earthworm (*Lumbricus terrestris*), possessing seven pairs of ovaries situated on the eighth and following somites to the fourteenth.—P. L. SCLATER, *Secretary*.

ENTOMOLOGICAL SOCIETY OF LONDON.

Feb. 24, 1892.—MR. FREDERICK DUCANE GODMAN, F.R.S., President, in the chair.

The Secretary read a letter from General Sir Dighton Probyn, K.C.B., Comptroller to the Prince of Wales, conveying the thanks of the Prince and Princess of Wales for the expression of condolence with their Royal Highnesses in their severe bereavement, which had been forwarded to Sir Dighton Probyn by the Secretary, on behalf of the Society.

Mr. Walter Cuthbert Biddell, of 32, The Grove, Bolton Gardens, S.W.; and Mr. Douglas Stuart Steuart, of North Leigh, Prestwich, Lancashire, were elected Fellows; and Mr. Philip de la Garde, R.N., was admitted into the Society.

The President referred to the loss the Society had recently sustained by the death of Mr. Henry Walter Bates, F.R.S., who had twice been its President; and he also read a copy of the resolution of sympathy and condolence with Mrs. Bates and her family, in their bereavement, which had been passed by the Council at their meeting that evening.

Mr. Frederick C. Adams exhibited a monstrous specimen of *Telephorus rusticus*, taken in the New Forest, in which the left mesothoracic leg

consisted of three distinct femora, tibiæ and tarsi, apparently originating from a single coxa; he also exhibited specimens of *Ledra aurita*.

Mr. G. A. James Rothney sent for exhibition a series of specimens of two species of Indian ants (*Myrmecaria subcarinata*, Sm., and *Aphænogaster (messor) barbarus*, L., var. *punctatus*, Forel), which had recently been determined for him by Dr. Forel. He also communicated notes on the subject, in which it was stated that *Myrmecaria subcarinata*, Sm., was not uncommon in Bengal, and formed its nests by excavating the earth round trees, and throwing it up in mounds of fine grains. The author also stated that both sexes of this species swarmed early in the "rains," from about July 7th to July 10th. Of the second species—*Aphænogaster barbarus* var. *punctatus*, Forel—Mr. Rothney observed that it, like the bee, *Apis dorsata*, seemed to have a great partiality for the gardens and buildings of the old Mogul Emperors in the North-West Provinces and in the Punjaub, the bee disfiguring the arches and roofs with its huge nests, and the ant frequenting the gardens and steps.

The Hon. Walter Rothschild communicated a paper entitled "On a little-known species of *Papilio* from the Island of Lifu, Loyalty Group." The paper was illustrated by a beautifully coloured drawing, by Mr. F. W. Frohawk, of the male, variety of the male, female, and under-side of the species.

March 9, 1892.—Mr. FREDERICK DUCANE GODMAN, F.R.S., President, in the chair.

Captain Clement Alfred Rigny Browne, R.E., care of Messrs. Grindlay, Groome, and Co., of Bombay; His Grace the Duke of Devonshire, LL.D., Chancellor of the University of Cambridge, of Devonshire House, 78, Piccadilly, W.; Mr. J. H. Leslie, of 44, Cheriton Square, Upper Tooting, S.W.; Mr. R. M. Lightfoot, of Bree Street, Cape Town, Cape of Good Hope; and Mr. Sidney Robinson, of Goldsmith's Hall, E.C., were elected Fellows of the Society.

Professor C. Stewart, President of the Linnean Society, exhibited and made remarks on specimens of *Cystocelia immaculata*, an Orthopterous insect from Namaqualand, in which the female is far more conspicuously coloured than the male, and the stridulating apparatus of the male differs in certain important details from that of other species. A long and interesting discussion ensued, in which Dr. Sharp, Mr. Poulton, Mr. Distant, Mr. H. J. Elwes, Colonel Swinhoe, and Mr. Hampson took part.

Mr. Elwes exhibited specimens of *Ribes aureum* which were covered with galls, as to the nature of which the Scientific Committee of the Horticultural Society desired to have the opinion of the Entomological Society. Mr. Fenn, Mr. Tutt, and Mr. Barrett made some remarks on these galls. Mr. Elwes also exhibited a large number of species of Heterocera recently collected by Mr. Doherty in South-east Borneo and

Sambawa. Colonel Swinhoe, Mr. Hampson, and Mr. Distant took part in the discussion which ensued.

Mr. Barrett exhibited a series of specimens of *Noctua festiva*, bred by Mr. G. B. Hart, of Dublin, which represented most of the known forms of the species, including the Shetland type and the form formerly described as a distinct species under the name of *Noctua conflua*. Mr. Fenn and Mr. Tutt made some remarks on the specimens.

Mr. W. C. Boyd exhibited a specimen of *Dianthecia Barrettii*, taken at Ilfracombe last summer. It was remarked that Mr. W. F. H. Blandford had recorded the capture of *D. Barrettii*—which had until recently been supposed to be confined to Ireland—from Pembrokeshire, and that its capture had also since been recorded from Cornwall.

Mr. Tutt exhibited specimens of *Polia xanthomista* from Mr. Gregson's collection, which had recently been sent to him by Mr. Sydney Webb. They included, amongst others, a specimen much suffused with yellow, and resembling Hübner's type and Gregson's type of var. *statices*, which Mr. Tutt stated was practically identical with Treitschke's *nigrocincta*. He remarked that certain localities appeared to produce different forms of this species, responding largely to their environment as far as colour is concerned, and were thus protected by resemblance to their surroundings.

Mr. G. A. James Rothney exhibited and read notes on a large collection of Indian Ants which he had made in Bengal between 1872 and 1886, comprising some 90 species. He stated that 18 of these species had been described by Dr. Mayr in his paper entitled "Ameisen Fauna Asiens," 1878; he also said that Dr. Forel had recently identified several other new species in the collection, and that there were about ten species and one new genus which Dr. Forel had not yet determined.

Mr. H. Goss exhibited, for Mr. T. D. A. Cockerell, of Kingston, Jamaica, several specimens of palm leaves, from the garden of the Museum in Kingston, covered with *Aspidiotus articulatus*, Morgan. The leaves appeared to have been severely attacked, the scales entirely covering the upper surface in places. Mr. Cockerell had pointed out, in a letter dated 16th Feb. last, that the species is notable for the sharp division between the thorax and abdomen; and that he had formerly distributed it under the name of *Aspidiotus rufescens*, but had since satisfied himself that it was identical with *A. articulatus* from Demerara. He added that the species fed on a variety of plants, and was known from Demerara, Jamaica, and Barbados.

Mr. F. D. Godman contributed a paper by the late Mr. Henry Walter Bates, with an introduction by himself, entitled "Additions to the Longicornia of Mexico and Central America, with remarks on some previously-recorded Species."

The Rev. A. E. Eaton communicated a paper entitled "On new Species of Ephemeridæ from the Tenasserim Valley."—H. Goss, *Hon. Sec.*

